

# **REPORT OF THE COMMISSIONER**

**WALPOLE 14540U**

**BRIDGE REPLACEMENT – NH ROUTE 123**

**PUBLIC HEARING**

**January 24, 2007 -- WALPOLE TOWN HALL -- 7:00 PM**

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The following decisions are the Department's resolution of issues as a result of the testimony presented at the January 24, 2007 Public Hearing and written testimony subsequently submitted for the Walpole 14540U project described as:

This project involves the replacement of the bridge that carries NH 123 over the Cold River. It also includes roadwork with approximately 200 feet of approach work on the north side of the bridge and the reconfiguration of the intersection of NH 123 and Brewery Road to the south. The bridge was damaged during the floods of October 9, 2005 after floodwaters scoured out the support of the twin arches in the middle of the Cold River.

The project also involves permanent repair to the slope failure in Drewsville due to damage caused by the floods.

1. **The Selectboard of Walpole, Mr. Duncan Watson, Mr. Steve Mingels, Mr. Gerry DeMuro, Mr. Andrew Dey, Mr. Mervin Stevens, Mr. John Hansel, Mr. Jim McNamara, Ms. Doris Barratt, Mrs. Pauline Barnes, Mr. Adrian Barnes, Mrs. Susan Jasse, Mr. Robert Jasse of Alyson's Orchard, Mr. Mel Schupack, Mr. Chas Street, Mr. Robert Grenier, and Mr. Gary Smith** requested that the new bridge be a modern covered timber bridge as first suggested by the local business, Benson Woodworking. They felt the modern covered timber bridge option would create a landmark that blends aesthetics, functionality and state-of-the-art engineering. They noted this bridge option would be a 21<sup>st</sup> century use of concrete and steel in combination with wood as a renewable resource adding strength, versatility and aesthetics. They noted that this bridge option would also signify and commemorate the reconstruction of the Cold River area after the devastating flood of October 2005.

**Mr. Gerry DeMuro** expressed the support of six local, heavy trucking firms for the modern covered timber bridge option. These firms include four local sawmills (Balla Sawmill in Acworth, Blanchflower Sawmill in Alstead, Lester Phillips Sawmill in Langdon, and the Woodell Farm Family Sawmill in Langdon) that frequently use the bridge. In addition, the sawmill owners have offered to donate wood for the project if their wood meets the required specifications. Cold River Sand and Gravel Corporation located on Brewery Road also expressed agreement with the modern covered timber bridge option.

**Mrs. Margaret Roy, Mr. Larry Roy, Mr. Donald Jennison, Ms. Ann B. Corey, Mr. Donald Tretler, Mrs. Cathy White, Mr. Jeffrey White, Mr. Peter Van Dyk Bery, Ms. Denise C. Gale, Mr. William J. MacDonald, Mrs. Elizabeth J. Brady, Mr. Gerald Brady, and Mr. Timmy Brady** expressed their support for the concrete butted box beam bridge. They felt that the aesthetic appearance of the bridge is subjective and that the concrete butted box beam option would complement the NH 12 bridge (3-span steel girders with concrete deck) just downstream.

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**Response:** The Department, with the support of State and Town officials, and residents of the area, proposes to move forward with the Town of Walpole's request for a modern covered timber bridge option to carry NH 123 over the Cold River. The modern covered timber bridge option blends the functionality of a concrete deck bridge with the aesthetics of the traditional New England covered timber bridge. The Department appreciates the offer of timber for the modern covered timber bridge from the sawmills and will coordinate with them during final design.

The Department recognizes that a bridge of this type might better serve to honor all those who suffered losses during the flood of October 2005.

2. **The Selectboard of Walpole, Mrs. Donna Jennison, Mr. Donald Jennison, and Mr. Duncan Watson** requested that the bridge be opened as soon as possible to reduce the heavy truck and vehicle traffic on the detour routes (Upper Walpole Road and Cold River Road).

**Response:** The Department understands the concerns expressed regarding the detour over Cold River Road and Upper Walpole Road due to the closure of the Cold River bridge. The Department is progressing the project in as timely a manner as possible given right-of-way, permitting, design, and approval processing requirements involved. The current schedule calls for opening the bridge in the summer of 2008.

3. **Mr. Romain Biron, Mrs. Cathy White, Mr. Jeffrey White, and Mr. Paul McGirk** expressed concern that the modern covered timber bridge option would create blind spots and reduce sight distance for drivers.

**Response:** The Department recognizes the concerns expressed. The Department will ensure that sight distance requirements are met.

4. **Mr. Romain Biron, Ms. Ann B. Corey, Mrs. Cathy White, Mr. Jeffrey White, and Ms. Denise C. Gale** expressed concern that if a truck hit one of the vertical truss members for the modern covered timber bridge, the bridge would fail.

**Response:** The Department has reviewed this issue. Unlike the more traditional covered bridge, the proposed design includes a concrete bridge deck that allows for the placement of a crashworthy, standard steel 2-bar rail system. This rigid rail system will redirect an errant vehicle back into the roadway area and prevent the vehicle from going over or through the rail and damaging the vertical truss members.

5. **Mr. Romain Biron and Mr. Gerald Brady** expressed concern regarding the future maintenance of the covered timber bridge, noting that the future maintenance might require heavy equipment that would interfere with the roof system. They also expressed concern regarding the effects of salt from winter maintenance on the bridge members.

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**Response:** The Department recognizes the concerns expressed. The Department has researched maintenance issues with the owners and maintainers of similar bridges built in Europe to understand their history of maintenance with the modern covered timber bridge. The Department does not believe the long-term maintenance issues with the bridge designed will be anymore problematic than with other more standard bridge designs.

The Fayette bridge constructed in France in 1998, is a similar modern covered timber bridge. This bridge built in the mountains of France sees significant snowfall. Winter maintenance efforts in France involves the use of salt as the deicing agent of choice. This bridge has performed well and has had no unanticipated maintenance issues during its short service time.

The issue of salt being tracked by vehicles onto the bridge will also be addressed during the final design of the contract plans. Salt does not have a negative impact on the wood members, but the Department will be detailing the steel connections between the wood and steel members with this consideration in mind. The roof on the modern covered timber bridge will reduce the need for, if not eliminate, salt being applied across the bridge during winter maintenance activities.

6. **Mr. Romain Biron** expressed concern that the modern covered timber bridge option was estimated at \$200,000 more than the concrete butted box option, and that the additional money might be better used in other parts of southwest New Hampshire ravaged by floods.

**Response:** The Department recognizes the estimated difference of \$200,000 in bridge types. However, the Department also believes that the modern covered timber bridge option is a good value for the Department, roadway users, and the Town of Walpole. Moreover, the differential cost between options would not result in additional funds that FEMA would otherwise make available for use in other areas of southwest New Hampshire.

7. **Mr. Paul McGirk** commented that for the modern covered timber bridge option, consideration should be given to relocating the utility lines underground.

**Response:** The placing of overhead utilities underground typically involves significant additional cost, and consequently, in accordance with long standing practice, the Department does not participate in the cost for such utility relocations. The Town of Walpole would be required to fund the difference in cost between conventional aerial relocation and relocating the utilities underground in the area of the bridge. If the Town wishes to do this, the Department would assist the Town in coordinating this task.

8. **Mr. Steve Mingels** questioned the height of the bridge rafters from the riding surface and the height of the bridge portal.

**Response:** From the roadway surface, the proposed rafters would have a minimum clearance of 16.5 feet. The proposed portal would be a minimum of 14.5 feet from the roadway surface.

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9. **Mr. Donald Jennison, Mrs. Christine Benson, Mrs. Cathy White, and Mr. Jeffrey White** questioned whether a bridge with a roof on it or a concrete butted box bridge would have more problems with icing during the winter season.

**Response:** Either option is manageable with good winter maintenance practices. The Department does not have experience with modern covered timber bridge designs, but the Department has not had problems with icing with the more traditional covered bridges. Additionally, the Department has contacted the owners and maintainers of the modern covered timber bridges built elsewhere to obtain their history of this issue. They have not indicated any unusual icing problems with modern covered timber bridge designs.

The Department will design for appropriate drainage just prior to the bridge to capture the flow of water to reduce the opportunity for icing.

10. **Mr. Jeff White** expressed concern that the truck traffic out of Brewery Road heading south would continue using Upper Walpole Road versus crossing the bridge to access NH 12.

**Response:** The Department recognizes that with the bridge closed, there has been additional truck traffic on Upper Walpole Road from the operation on Brewery Road. The Department has received input that vehicles leaving Cold River Sand and Gravel Corporation located on Brewery Road, did utilize the bridge to access NH 123 and NH 12 south when departing from the site prior to the bridge collapse and will again utilize this travel pattern upon the bridge reopening.

Upper Walpole Road is state maintained and, therefore, posting of the road to prevent truck use is not permissible.

11. **Mr. Gerry DeMuro and Ms. Theodora B. Berg** questioned the status of re-using the granite blocks salvaged from the collapsed historic double arch bridge.

**Response:** Granite blocks from the two span stone arch bridge were salvaged during the removal of the collapsed bridge. The blocks will be re-used as facing to the wingwalls with preference being for the new bridge components that face NH 12 to the west.

12. **Ms. Debbie Hinman, Chair of Cold River Local Advisory**, expressed concern for the agricultural soils on either side of the river and urged the Department to protect those agricultural lands along the river.

**Response:** The Department recognizes the concern, but does not have jurisdiction or funding to apply best maintenance practices for any area outside of the roadway right-of-way. However, to prevent erosion of the areas adjacent to the bridge and thus protect the bridge abutments, stabilization measures will be utilized adjacent to the bridge.

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13. **Ms. Debbie Hinman, Chair of Cold River Local Advisory**, expressed concern that the bridge waterway opening would not account for sediment transport and did not meet the recommendations of NHDES and Horizons Engineering River Restoration Study.

**Response:** The Department recognizes the desire to meet the recommended clear span of 103 feet as indicated by the River Restoration Study. The Department was able to increase the clear span shown at the hearing from 97 feet to 102 feet. Also, the existing bridge had a pier in the river and the new designs do not require one. The absence of the pier in the river will improve flow characteristics. The bridge span cannot reasonably be lengthened more due to the roadway alignment, and adjoining horizontal curves, and the need to closely follow the existing alignment in order to minimize right-of-way impacts to the properties in the vicinity of the bridge. In addition to right-of-way impacts, increasing the span further along these curves would increase the offset between the curvature of the roadway and the tangent bridge, thereby requiring a wider bridge.

14. **Ms. Debbie Hinman, Chair of Cold River Local Advisory**, questioned whether the Department had completed an Environmental Assessment of the project, and if not, when would one be completed.

**Response:** The Department has completed environmental documentation for the project. A formal Environmental Assessment was not required given the minimal environmental impacts with the replacement largely matching the footprint of the collapsed bridge. The Department has since the hearing provided a copy of the document to the Cold River Local Advisory as requested.

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Charles P. O'Leary, Jr.  
Commissioner  
New Hampshire Department  
of Transportation